

**ENGINEERING CHANGE NOTICE**  
DART AEROSPACE LTD

|                                      |                          |                        |                         |                |
|--------------------------------------|--------------------------|------------------------|-------------------------|----------------|
| Date: 19.09.09                       | Job No.: RB18-EUROCOPTER | ADR Yes/No: N          | ADR Date: <i>mpp</i>    | ECN #: 19- 874 |
| Product No.: DART TOOLING EUROCOPTER |                          | Created By: VM         | Approved By: <i>WFP</i> |                |
| Product Name: SEE BELOW              |                          | Checked By: <i>hgt</i> |                         |                |

Reason for Change:  
CUSTOMER ISSUES

Documents Released:

RBE105-14181W4 REV C

IF APPLICABLE: NCR: \_\_\_\_\_ PAR: \_\_\_\_\_ CAR: \_\_\_\_\_ CIR: \_\_\_\_\_ URF: 19-874

PAPERWORK UPDATE ☐

PARTS MUST COMPLY ☒

PREVIOUS PARTS SATISFACTORY ☐

| # | Quality Assurance / Customer Support Actions | Reqd | Resp | Notes | Complete |
|---|--|------|------|-------|----------|
| 1 | Notify Previous Customers                    | N    |      |       |          |
| 2 | Notify Airbus                                | N    |      |       |          |
| 3 | Notify Leonardo                              | N    |      |       |          |
| 4 | Manufacturing Licensing Agreement Update     | N    |      |       |          |

| #  | Engineering Actions                                      | Reqd | Resp | Notes | Complete |
|----|--|------|------|-------|----------|
| 5  | Required Documents/Drawings/Item ID's Under Review (URF) | N    |      |       |          |
| 6  | Update Master Document List (MDL)                        | N    |      |       |          |
| 7  | Update Document Record (DR)                              | N    |      |       |          |
| 8  | Update Product Compatability Matrix                      | N    |      |       |          |
| 9  | Notify TC / FAA of Change (eg. ICA, 8110-3)              | N    |      |       |          |
| 10 |  | N    |      |       |          |

| #  | Document Control Actions   | Reqd     | Resp      | Notes | Complete            |
|----|--|----------|-----------|-------|---------------------|
| 11 | Move / Update Electronic Files / Design Journal                      | Y        | MG        |       | <i>hgt 19.07.09</i> |
| 12 | Update Product Specification Files (Bluefiles)                       | N        |           |       |                     |
| 13 | Update Approved/Preliminary Dwg PDF Files                            | Y        | MG        |       | <i>hgt 19.09.09</i> |
| 14 | Update Product Development Summary (STC applications)                | N        |           |       |                     |
| 15 | Update QSI 021 (TC/FAA STC) and/or STC Approval List                 | N        |           |       |                     |
| 16 | Create/Update Parts / STC Database                                   | Y        | MG        |       | <i>hgt 19.09.09</i> |
| 17 | Update / Verify Authorized Release Certificate Database              | <i>Y</i> | <i>MG</i> |       | <i>hgt 19.09.09</i> |
| 18 | Create / Update Change Record Form / Item Card Database              | <i>Y</i> | <i>MG</i> |       | <i>hgt 19.09.09</i> |
| 19 | Create / Update Packaging Process Plan (PPP)                         | N        |           |       |                     |
| 20 | Red Decals required on Packaging Process Plan (PPP)?                 | N        |           |       |                     |
| 21 | Update Controlled Supplier Documents (Qpulse) Database               | N        |           |       |                     |
| 22 | Update Grey Project Binder / Electronic Project Folder               | N        |           |       |                     |
| 23 | Update D-Part / M-Drawing / DSI / DEO Master Binders                 | N        |           |       |                     |
| 24 | Update "Royalty Paid to" attribute (Parts sold under Dart USA STC's) | N        |           |       |                     |
| 25 |  |          |           |       |                     |

Description / Action:

RELEASE RBE105-14181W4 REV C DRAWING  
PLACE RBE105-14181W4 REV B IN SUPERCEED FOLDER  
CLOSE URF 19-874  
ALL STOCK MUST BE SCRAPPED

*Per vanessa*  
*all subs scrap*  
*see attached in 19.09.09*

ECN Verified & Complete: \_\_\_\_\_ Date: \_\_\_\_\_

## Jennifer Renwick

**From:** Linda Lacelle  
**Sent:** Monday, September 09, 2019 9:50 AM  
**To:** Michelle GagnonDonovan; Marcel Daviau; Ross Black; John Chuprun; Ketan Tailor  
**Cc:** Marie Lajeunesse; Konrad Sauve; Jean-Luc Menard; Jennifer Renwick; Jean Francois Sauve; Holly Zhao; Support; Steven Hemmerich; Steven Drouin; Robert Aboud; David Duval; Daniel Paquette  
**Subject:** RE: ECN 19-874 (RBE105-14181W4)

Does this affect the sub-components as well pls?

> As per Dan → W confirm once  
Routing is updated.

| Operation Number  | Operation  | Container No   | Job           | Master Unit Number | Quantity | Weight | Serial No/Batch | Location   | Container | Status     | Added     | Spec Comm |
|---|------------|----------------|---------------|--------------------|----------|--------|-----------------|------------|-----------|------------|-----------|-----------|
| Part Number: RBE105-14181W4 Revision: Needle Bearings Extractor |            |                |               |                    |          |        |                 |            |           |            |           |           |
| 130   | QC 21 - FG | <u>S192495</u> | <u>188787</u> |                    | 1 pcs    | 0      | S192495         | GA151F     |           | Stock      | 6/21/2019 | *         |
|   |            | <u>S210120</u> |               |                    | 1 pcs    | 0      | 000000895       | Evaluation |           | Quarantine | 8/29/2019 | *         |
| Operation Totals:   |            | 2              |               |                    | 2        | 0      |                 |            |           |            |           |           |
| Part Totals:  |            | 2              |               |                    | 2        | 0      |                 |            |           |            |           |           |
| Part Number: RBE105-14181W4-13 Revision: Screw                  |            |                |               |                    |          |        |                 |            |           |            |           |           |
| 170   | QC 21 - SA | <u>S156628</u> | <u>188797</u> |                    | 3 pcs    | 0      | S156628         | GA141C     |           | Stock      | 2/26/2019 | *         |
| Operation Totals:   |            | 1              |               |                    | 3        | 0      |                 |            |           |            |           |           |
| Part Totals:  |            | 1              |               |                    | 3        | 0      |                 |            |           |            |           |           |
| Part Number: RBE105-14181W4-15 Revision: Base                   |            |                |               |                    |          |        |                 |            |           |            |           |           |
| 180   | QC 21 - SA | <u>S153930</u> | <u>190332</u> |                    | 2 pcs    | 0      | S153930         | GA141C     | Bin       | Stock      | 2/14/2019 | *         |
| Operation Totals:   |            | 1              |               |                    | 2        | 0      |                 |            |           |            |           |           |
| Part Totals:  |            | 1              |               |                    | 2        | 0      |                 |            |           |            |           |           |
| Part Number: RBE105-14181W4-17 Revision: Clamping Ring          |            |                |               |                    |          |        |                 |            |           |            |           |           |
| 170   | QC 21 - SA | <u>S172900</u> | <u>188793</u> |                    | 3 pcs    | 0      | S172900         | GA137A     | Bin       | Stock      | 4/16/2019 | *         |
| Operation Totals:   |            | 1              |               |                    | 3        | 0      |                 |            |           |            |           |           |
| Part Totals:  |            | 1              |               |                    | 3        | 0      |                 |            |           |            |           |           |
| Part Number: RBE105-14181W4-3 Revision: Shell                   |            |                |               |                    |          |        |                 |            |           |            |           |           |
| 140   | QC 21 - SA | <u>S185072</u> | <u>188798</u> |                    | 6 pcs    | 0      | S185072         | WARB-09    | Bin       | Stock      | 5/29/2019 | *         |
| Operation Totals:   |            | 1              |               |                    | 6        | 0      |                 |            |           |            |           |           |
| Part Totals:  |            | 1              |               |                    | 6        | 0      |                 |            |           |            |           |           |
| Part Number: RBE105-14181W4-5 Revision: Shell Base              |            |                |               |                    |          |        |                 |            |           |            |           |           |
| 140   | QC 21 - SA | <u>S185281</u> | <u>188799</u> |                    | 6 pcs    | 0      | S185281         | WARB-09    | Bin       | Stock      | 5/29/2019 | *         |
| Operation Totals:   |            | 1              |               |                    | 6        | 0      |                 |            |           |            |           |           |
| Part Totals:  |            | 1              |               |                    | 6        | 0      |                 |            |           |            |           |           |
| Part Number: RBE105-14181W4-7 Revision: Cap                     |            |                |               |                    |          |        |                 |            |           |            |           |           |
| 140   | QC 21 - SA | <u>S185208</u> | <u>188800</u> |                    | 7 pcs    | 0      | S185208         | WARB-09    | Bin       | Stock      | 5/29/2019 | *         |
| Operation Totals:   |            | 1              |               |                    | 7        | 0      |                 |            |           |            |           |           |

| Operation Number   | Operation  | Container No   | Job           | Master Unit Number | Quantity | Weight | Serial No/Batch | Location | Container | Status | Added    | Spec Comm |
|--|------------|----------------|---------------|--------------------|----------|--------|-----------------|----------|-----------|--------|----------|-----------|
| <b>Part Totals:</b>                                      |            | 1              |               |                    | 7        | 0      |                 |          |           |        |          |           |
| <b>Part Number: RBE105-14181W4-9 Revision: Extractor</b> |            |                |               |                    |          |        |                 |          |           |        |          |           |
| 130  | QC 21 - SA | <u>S188525</u> | <u>188794</u> |                    | 1 pcs    | 0      | S188525         | GA137    | Bin       | Stock  | 6/7/2019 | *         |
| <b>Operation Totals:</b>                                 |            | 1              |               |                    | 1        | 0      |                 |          |           |        |          |           |

**From:** Michelle GagnonDonovan <mgagnondonovan@dartaero.com>

**Sent:** Monday, September 9, 2019 8:59 AM

**To:** Daniel Paquette <dpaquette@dartaero.com>; David Duval <dduval@dartaero.com>; Holly Zhao <hzhao@dartaero.com>; Jean Francois Sauve <jfsauve@dartaero.com>; Jean-Luc Menard <jmenard@dartaero.com>; Jennifer Renwick <jrenwick@dartaero.com>; John Chuprun <jchuprun@dartaero.com>; Ketan Tailor <ktailor@dartaero.com>; Konrad Sauve <ksauve@dartaero.com>; Linda Lacelle <llacelle@dartaero.com>; Marcel Daviau <mdaviau@dartaero.com>; Marie Lajeunesse <mlajeunesse@dartaero.com>; Patrick Duval <pduval@dartaero.com>; Rachel Maloney <rmaloney@dartaero.com>; Robert Aboud <raboud@dartaero.com>; Ross Black <rblack@dartaero.com>; Steven Drouin <sdrouin@dartaero.com>; Steven Hemmerich <shemmerich@dartaero.com>; Support <support@dartaero.com>

**Subject:** ECN 19-874 (RBE105-14181W4)

Hello,

Please find a copy of ECN 19-874 attached.

Thank you,

**Michelle Gagnon-Donovan**  
Document Controller

**DART AEROSPACE**  
T 1 613 632-5300 > 251

[www.dartaerospace.com](http://www.dartaerospace.com)



Linda Lacelle



**From:** Linda Lacelle  
**Sent:** Monday, September 9, 2019 12:16 PM  
**To:** John Chuprun  
**Cc:** Marcel Daviau; Jennifer Renwick  
**Subject:** FW: ECN 19-874 (RBE105-14181W4)








John,  
Per Vanessa, all parts need to be scrapped...I will put them in qrtn for now, and you can scrap them in Plex and physically

Thx  
L

**From:** Linda Lacelle  
**Sent:** Monday, September 9, 2019 9:50 AM  
**To:** Michelle GagnonDonovan <mgagnondonovan@dartaero.com>; Marcel Daviau <mdaviau@dartaero.com>; Ross Black <rblack@dartaero.com>; John Chuprun <jchuprun@dartaero.com>; Ketan Tailor <ktailor@dartaero.com>  
**Cc:** Marie Lajeunesse <mlajeunesse@dartaero.com>; Konrad Sauve <ksauve@dartaero.com>; Jean-Luc Menard <jmenard@dartaero.com>; Jennifer Renwick <jrenwick@dartaero.com>; Jean Francois Sauve <jfsauve@dartaero.com>; Holly Zhao <hzhao@dartaero.com>; Support <support@dartaero.com>; Steven Hemmerich <shemmerich@dartaero.com>; Steven Drouin <sdrouin@dartaero.com>; Robert Aboud <raboud@dartaero.com>; David Duval <dduval@dartaero.com>; Daniel Paquette <dpaquette@dartaero.com>  
**Subject:** RE: ECN 19-874 (RBE105-14181W4)

Does this affect the sub-components as well pls?

| Operation Number  | Operation  | Container No | Job    | Master Unit Number | Quantity | Weight | Serial No/Batch | Location   | Container | Status     | Added     | Special Comments | Label   | Supplier | Change No | Expiration Date | I |
|---|------------|--------------|--------|--------------------|----------|--------|-----------------|------------|-----------|------------|-----------|------------------|---|----------|-----------|-----------------|---|
| Part Number: RBE105-14181W4 Revision: Needle Bearings Extractor |            |              |        |                    |          |        |                 |            |           |            |           |                  |   |          |           |                 |   |
| 130   | QC 21 - FG | S192495      | 188787 |                    | 1 pcs    | 0      | S192495         | GA151F     |           | Stock      | 6/21/2019 | *                |  |          |           |                 | F |
|   |            | S210120      |        |                    | 1 pcs    | 0      | 000000895       | Evaluation |           | Quarantine | 8/29/2019 | *                |  |          |           |                 |   |
| Operation Totals:   |            | 2            |        |                    | 2        | 0      |                 |            |           |            |           |                  |   |          |           |                 |   |
| Part Totals:  |            | 2            |        |                    | 2        | 0      |                 |            |           |            |           |                  |   |          |           |                 |   |
| Part Number: RBE105-14181W4-13 Revision: Screw                  |            |              |        |                    |          |        |                 |            |           |            |           |                  |   |          |           |                 |   |

| Operation Number                                       | Operation  | Container No   | Job           | Master Unit Number | Quantity | Weight | Serial No/Batch | Location | Container | Status | Added     | Special Comments | Label   | Supplier | Change No | Expiration Date |   |
|--|------------|----------------|---------------|--------------------|----------|--------|-----------------|----------|-----------|--------|-----------|------------------|---|----------|-----------|-----------------|---|
| 170  | QC 21 - SA | <u>S156628</u> | <u>188797</u> |                    | 3 pcs    | 0      | S156628         | GA141C   |           | Stock  | 2/26/2019 | *                |    |          |           |                 | F |
| Operation Totals:                                      |            | 1              |               |                    | 3        | 0      |                 |          |           |        |           |                  |   |          |           |                 |   |
| Part Totals:   |            | 1              |               |                    | 3        | 0      |                 |          |           |        |           |                  |   |          |           |                 |   |
| Part Number: RBE105-14181W4-15 Revision: Base          |            |                |               |                    |          |        |                 |          |           |        |           |                  |   |          |           |                 |   |
| 180  | QC 21 - SA | <u>S153930</u> | <u>190332</u> |                    | 2 pcs    | 0      | S153930         | GA141C   | Bin       | Stock  | 2/14/2019 | *                |    |          |           |                 | F |
| Operation Totals:                                      |            | 1              |               |                    | 2        | 0      |                 |          |           |        |           |                  |   |          |           |                 |   |
| Part Totals:   |            | 1              |               |                    | 2        | 0      |                 |          |           |        |           |                  |   |          |           |                 |   |
| Part Number: RBE105-14181W4-17 Revision: Clamping Ring |            |                |               |                    |          |        |                 |          |           |        |           |                  |   |          |           |                 |   |
| 170  | QC 21 - SA | <u>S172900</u> | <u>188793</u> |                    | 3 pcs    | 0      | S172900         | GA137A   | Bin       | Stock  | 4/16/2019 | *                |    |          |           |                 | F |
| Operation Totals:                                      |            | 1              |               |                    | 3        | 0      |                 |          |           |        |           |                  |   |          |           |                 |   |
| Part Totals:   |            | 1              |               |                    | 3        | 0      |                 |          |           |        |           |                  |   |          |           |                 |   |
| Part Number: RBE105-14181W4-3 Revision: Shell          |            |                |               |                    |          |        |                 |          |           |        |           |                  |   |          |           |                 |   |
| 140  | QC 21 - SA | <u>S185072</u> | <u>188798</u> |                    | 6 pcs    | 0      | S185072         | WARB-09  | Bin       | Stock  | 5/29/2019 | *                |    |          |           |                 | F |
| Operation Totals:                                      |            | 1              |               |                    | 6        | 0      |                 |          |           |        |           |                  |   |          |           |                 |   |
| Part Totals:   |            | 1              |               |                    | 6        | 0      |                 |          |           |        |           |                  |   |          |           |                 |   |
| Part Number: RBE105-14181W4-5 Revision: Shell Base     |            |                |               |                    |          |        |                 |          |           |        |           |                  |   |          |           |                 |   |
| 140  | QC 21 - SA | <u>S185281</u> | <u>188799</u> |                    | 6 pcs    | 0      | S185281         | WARB-09  | Bin       | Stock  | 5/29/2019 | *                |    |          |           |                 | F |
| Operation Totals:                                      |            | 1              |               |                    | 6        | 0      |                 |          |           |        |           |                  |   |          |           |                 |   |
| Part Totals:   |            | 1              |               |                    | 6        | 0      |                 |          |           |        |           |                  |   |          |           |                 |   |
| Part Number: RBE105-14181W4-7 Revision: Cap            |            |                |               |                    |          |        |                 |          |           |        |           |                  |   |          |           |                 |   |
| 140  | QC 21 - SA | <u>S185208</u> | <u>188800</u> |                    | 7 pcs    | 0      | S185208         | WARB-09  | Bin       | Stock  | 5/29/2019 | *                |  |          |           |                 | F |
| Operation Totals:                                      |            | 1              |               |                    | 7        | 0      |                 |          |           |        |           |                  |   |          |           |                 |   |
| Part Totals:   |            | 1              |               |                    | 7        | 0      |                 |          |           |        |           |                  |   |          |           |                 |   |
| Part Number: RBE105-14181W4-9 Revision: Extractor      |            |                |               |                    |          |        |                 |          |           |        |           |                  |   |          |           |                 |   |
| 130  | QC 21 - SA | <u>S188525</u> | <u>188794</u> |                    | 1 pcs    | 0      | S188525         | GA137    | Bin       | Stock  | 6/7/2019  | *                |  |          |           |                 | F |
| Operation Totals:                                      |            | 1              |               |                    | 1        | 0      |                 |          |           |        |           |                  |   |          |           |                 |   |

**From:** Michelle GagnonDonovan <[mgagnondonovan@dartaero.com](mailto:mgagnondonovan@dartaero.com)>

**Sent:** Monday, September 9, 2019 8:59 AM

**To:** Daniel Paquette <[dpaquette@dartaero.com](mailto:dpaquette@dartaero.com)>; David Duval <[dduval@dartaero.com](mailto:dduval@dartaero.com)>; Holly Zhao <[hzhao@dartaero.com](mailto:hzhao@dartaero.com)>; Jean Francois Sauve <[jfsauve@dartaero.com](mailto:jfsauve@dartaero.com)>; Jean-Luc Menard <[jmenard@dartaero.com](mailto:jmenard@dartaero.com)>; Jennifer Renwick <[jrenwick@dartaero.com](mailto:jrenwick@dartaero.com)>; John Chuprun <[jchuprun@dartaero.com](mailto:jchuprun@dartaero.com)>; Ketan Tailor <[ktailor@dartaero.com](mailto:ktailor@dartaero.com)>; Konrad Sauve <[ksauve@dartaero.com](mailto:ksauve@dartaero.com)>; Linda Lacelle <[llacelle@dartaero.com](mailto:llacelle@dartaero.com)>; Marcel Daviau <[mdaviau@dartaero.com](mailto:mdaviau@dartaero.com)>; Marie Lajeunesse <[mlajeunesse@dartaero.com](mailto:mlajeunesse@dartaero.com)>; Patrick Duval <[pduval@dartaero.com](mailto:pduval@dartaero.com)>; Rachel Maloney <[rmaloney@dartaero.com](mailto:rmaloney@dartaero.com)>; Robert Aboud <[raboud@dartaero.com](mailto:raboud@dartaero.com)>; Ross Black <[rblack@dartaero.com](mailto:rblack@dartaero.com)>; Steven Drouin <[sdrouin@dartaero.com](mailto:sdrouin@dartaero.com)>; Steven Hemmerich <[shemmerich@dartaero.com](mailto:shemmerich@dartaero.com)>; Support <[support@dartaero.com](mailto:support@dartaero.com)>

**Subject:** ECN 19-874 (RBE105-14181W4)

Hello,

Please find a copy of ECN 19-874 attached.

Thank you,

**Michelle Gagnon-Donovan**

*Document Controller*

**DART AEROSPACE**

T 1 613 632-5300 > 251

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